

REMARKS

Claims 1–23 are pending, of which Claims 1, 12, and 23 are independent. Claims 1, 12, and 23 are being amended. No new matter is believed to be introduced by way of these amendments.

Claim 1 is being amended to recite, in relevant part, “a second switch fabric coupled to the first switch fabrics via respective switch interface modules ... the coupling via the respective switch interface modules allowing a reduced number of links between the first switch fabrics and the second switch fabric relative to coupling the first switch fabrics directly to the second switch fabric.” Claims 12 and 23 are being similarly amended. Support for these amendments can be found in the application as filed at least in page 12, lines 15–25; page 16, lines 7–20; page 17, lines 22–27; and in FIGS. 6, 8, 10, and 11.

Rejections under 35 U.S.C. § 103(a)

Claims 1–7, 9, 11–18, 20, 22, and 23 have been rejected as being unpatentable over U.S. Patent No. 6,332,198 B1 (Simons) in view of U.S. Patent No. 6,201,788 (Ishiwatari). Specifically, the instant Office Action states that it would have been obvious to combine Simons’s first and second switch fabrics with Ishiwatari’s facility protection switching at a signal substrate relative to a rate at which the signals are received by the first switch fabrics.

Simons’s FIGS. 35A and 35B show a network device 540 that supports multiple redundancy using quadrants of universal port cards, cross connect cards, and forwarding cards. In quadrant 1, universal port cards 554a–h connected to a SONET fiber carry a Time Division Multiplex (TDM) byte stream to cross connect cards 562a and 562b, which, in turn, pass the byte stream to forwarding cards 546a–e. The forwarding cards 546a–e process the byte stream, then pass any resulting path data to one of two switching fabric cards 570a and 570b, which forward the path data to another quadrant.

Ishiwatari’s FIG. 10 shows a transmission device 20 that includes a working system 20₁ and a protection system 20₂. Each system 20₁ and 20₂ demultiplexes received signals with a respective demultiplexer 22 and 32, processes the signals with a respective signal processing part 23 and 33, then multiplexes the processed signals with a respective multiplexer 24 and 34. Connections between the working system 20₁ and the protection system 20₂ make it possible to

send identical signals or redundant channel arrangements in two directions, avoiding network faults. (Ishiwatari, col. 5, lines 20–32)

Claim 1 as amended, however, recites “a second switch fabric coupled to the first switch fabrics via respective switch interface modules ... the coupling via the respective switch interface modules allowing a reduced number of links between the first switch fabrics and the second switch fabric relative to coupling the first switch fabrics directly to the second switch fabric.” Similarly, Claim 23 as amended recites “switch interface means that allow a reduced number of links between the first means and the second means relative to coupling the first switch fabrics directly to the second switch fabric.” Claim 12 as amended recites “performing facility protection switching at multiple switch interface modules.” In contrast, neither Simons nor Ishiwatari discloses a switch interface module or means, much less coupling switching fabrics or performing facility protection switching using a switch interface module.

Moreover, there is no reason to modify Simons or Ishiwatari to include a switch interface module. Simons relies on forwarding cards to process and forward “path data,” so adding switch interface cards between the forwarding cards and switching fabric cards would add an extra layer of processing, increasing fault recovery time. Ishiwatari, on the other hand, uses the signal processing parts in the working and protection systems to allocate channels on different paths for redundant operation. Introducing switch interface modules between the working and protection systems would not improve channel allocation or increase redundancy. Because neither Simons nor Ishiwatari includes a switch interface module, the combination of Simons and Ishiwatari does not include a switch interface module either. Moreover, there is no reason to add a switch interface module to the combination of Simons and Ishiwatari because adding a switch interface module to the combination of Simons and Ishiwatari would increase fault recovery time without improving channel allocation or increasing redundancy.

Accordingly, Applicants respectfully submit that the rejection of Claims 1, 12, and 23 is overcome because combining Simons and Ishiwatari does not result in the claimed inventions. Moreover, Applicants respectfully submit that a *prima facie* case of obviousness cannot be made against amended Claims 1, 12, and 23 based on the asserted references because of a missing element (“switch interface modules”). Likewise, the rejection of dependent Claims 2–7, 9, 11, 13–18, 20, and 22 is overcome for least the same reasons.

Claim 8 and 19 stand rejected under as being unpatentable over Simons in view of U.S. Patent No. 6,456,587 B2 (Taniguchi). Claims 10 and 21 stand rejected as being unpatentable over Simons in view of Ishiwatari and further in view of U.S. Patent No. 2004/0213205 A1 (Li).

Taniguchi discloses a "squench" method, or method for handling failures, in a ring transmission system. Li discloses a voice packet switching system that uses a switch fabric to switch channels over packet and non-packet transmission links. Because neither Taniguchi nor Li remedies the defects of Simons and Ishiwatari with respect to base Claims 1 and 12, Applicants submit that dependent Claims 8 and 19 should be allowed for at least the same reasons as the base claims from which they depend.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims, Claims 1-23, are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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